Opposing Views Attachment #3

Best Science shows Logging to Reduce Fuels is not only Ineffective at Reducing Fire Intensity and Rate of Spread, but sometimes Exacerbates Fire Behavior. Since Fuels Reduction is a Favorite USFS Excuse to Log Public Land its Employees are Taught to Ignore and Deny this Information.

Fuels reduction Opposing View #1 - "large, severe wildfires are more weather-dependent than fuel-dependent,"

Agee, James K. Ph.D. "**The Severe Weather Wildfire-Too Hot to Handle?**
Northwest Science, Vol. 71, No. 1, 1997
http://www2.for.nau.edu/courses/pzf/FireEcolMgt/Agee_97.pdf

Fuels reduction Opposing View #2 - "The biggest ecological con job in years is being waged by the U.S. Republican party and their timber industry cronies. They are blaming the recent Western wildfires on environmentalists, and assuring the public that commercial logging will reduce the risk of catastrophic wildfires."

Barry, Glen, Ph.D. "**Commercial Logging Caused Wildfires**"
Published by the *Portland Independent Media Center*, August 2002.
http://portland.indymedia.org/en/2002/08/17464.shtml

Fuels reduction Opposing View #3 - "One reason that fuels reduction treatments should be limited is that they may not address the important effects of climate and weather on fire behavior. Some studies suggest that it is drought and warmer temperatures—not fuels accumulations—that are the major explanatory factors for large fires (O'Toole 2002-2003, Pierce et al. 2004). It is an unrealistic goal to return all forests to historical states, in light of the fact that agencies have no control over drought or temperature." (pgs. 15 – 16)

Berry, Alison Ph.D., 2007. "**Forest Policy Up in Smoke: Fire Suppression in the United States**." A PERC publication.
http://www.law.northwestern.edu/searlecenter/papers/Berry_forest_policy.pdf

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Fuels reduction Opposing View #4 - "Fire intensity was correlated to annual area burned; large area burned years had higher fire intensity predictions than smaller area burned years. The reason for this difference was attributed directly to the weather variable frequency distribution, which was shifted towards more extreme values in years in which large areas burned. During extreme weather conditions, the relative importance of fuels diminishes since all stands achieve the threshold required to permit crown fire development. This is important since most of the area burned in subalpine forests has historically occurred during very extreme weather (i.e., drought coupled to high winds). The fire behavior relationships predicted in the models support the concept that forest fire behavior is determined primarily by weather variation among years rather than fuel variation associated with stand age."

Bessie, W. C. Ph.D. and E. A. Johnson Ph.D. "**The Relative Importance of Fuels and Weather on Fire Behavior in Subalpine Forests**" *Ecology*, Vol. 76, No. 3 (Apr., 1995) pp. 747-762. Published by: Ecological Society of America
http://www.jstor.org/pss/1939341

Fuels reduction Opposing View #5 - "Climatic conditions drive all big fires—not fuels. All substantial fires occur only if there is extended drought, low humidity, high temperatures and, most importantly, high winds. When conditions are "ripe" for a large blaze, fires will burn through all kinds of fuel loads. For this reason, most fires go out without burning more than a few acres; approximately 1 percent of all fires are responsible for about 95 percent to 99 percent of the acreage burned."

"Under severe conditions, fires burn through all kinds of fuel loads including thinned/logged forests. Contrary to what the U.S. Forest Service has stated about the Ojo Peak Fire, local witnesses have said the fire blew right through the hotter, drier thinned forests where the cooling effect of forest canopy had been removed."

Bird, Bryan "**Fires Normal Part of Ecology - Fear of fires ungrounded**"
Mountain View Telegraph, December 20, 2007
http://www.wildearthguardians.org/library/paper.asp?nMode=1&nLibraryID=567

Fuels reduction Opposing View #6 - "The Forest Service is using the fear of wildfires to allow logging companies to remove medium-and large-diameter trees that they can sell, rather than just the small trees and brush that can make fires more severe. There is little evidence to show that such logging will prevent catastrophic fires; on the contrary, logging roads and industrial logging cause wildfires. Bush is a well known supporter of the timber industry and has accepted huge sums of money from wealthy timber company leaders. He is promoting misinformation about forest fires in order to benefit timber industry campaign contributors."

"**Bush Fire Policy: Clearing Forests So They Do Not Burn**"
FOREST CONSERVATION NEWS TODAY, August 27, 2002
http://forests.org/archived_site/today/recent/2002/tiporefl.htm

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Fuels reduction Opposing View #7 - "As someone with first-hand experience in fire hazard reduction and first-hand knowledge of the forest management field, as well as someone with lifelong roots in the Durango community, I am abhorred by the destruction, nearly amounting to clear cutting, that is taking place around our community under the guise of "fire hazard reduction." "

Coe, Nathan J. **"Forestry shouldn't be an 'industry' "**
Durango Herald, February 12, 2011
http://www.durangoherald.com/article/20110213/OPINION03/702139987/Forestry-shouldn%E2%80%99t-be-an-%E2%80%98industry%E2%80%99

Fuels reduction Opposing View #8 - "First, most large fires are climatic/weather driven events, not fuels driven. Extended drought, high winds, high temperatures and low humidity enable fires to burn through all fuel loadings. Many of the large Western fires in recent years were in forests that had been previously logged and/or thinned, with little apparent effect on fire spread or severity."

Forest Policy Research paper
2008 **"Montana: Blackfoot Clearwater Stewardship Proposal is all about selling out to Pyramid lumber"**
http://forestpolicyresearch.org/2008/12/19/blackfoot-clearwater-stewardship-proposal-is-all-selling-out-to-pyramid-lumber/

Fuels reduction Opposing View #9 - "most large fires are climatic/weather driven events, not fuels driven. Extended drought, high winds, high temperatures and low humidity enable fires to burn through all fuel loadings."

Forest Policy Research paper
2008 **"California: Too often thinning treatments tend to increase fire hazards"**
http://forestpolicyresearch.org/2008/12/19/california-too-often-thinning-treatments-tend-to-increase-fire-hazards/

Fuels reduction Opposing View #10 - "The primary driver of fire is not beetle kill. It's climate," said Barry Noon, a wildlife ecology professor at Colorado State University and an author of the report. "It's drought and temperature."

"The report was authored by Noon; Clark University professor Dominik Kulakowski ; Scott Black, executive director of the Xerces Center for Invertebrate Conservation and Dominick DellaSala, president and chief scientist for the National Center for Conservation Science and Policy."

Frey, David "**Logging Won't Halt Beetles, Fire, Report Says**"
NewWest.net, 3-03-10
http://www.newwest.net/topic/article/logging_wont_halt_beetles_fire_report_says/C41/L41/

Fuels reduction Opposing View #11 - " "Extensive areas of dead trees have understandably led to widespread concern about the increased risk for forest fires," said Dominik Kulakowski, one of the report's authors and a professor of geography and biology at Clark University in Worcester, Mass. "This is a logical concern, but the best available science indicates that the occurrence of large fires in lodgepole pine and spruce-fir forests is mainly influenced by climatic conditions, particularly drought." "

Gable, Eryn "**Battling beetles may not reduce fire risks – report**"
The Xerces Society Land Letter, March 4, 2010
http://www.xerces.org/2010/03/04/battling-beetles-may-not-reduce-fire-risks-report/

Fuels reduction Opposing View #12 - "Reducing burnable biomass, however, does not eliminate wildfires, because fuel reduction does not directly alter the dryness of the biomass or the probability of an ignition."

Gorte, Ross W. Ph.D.
"Wildfire Damages to Homes and Resources: Understanding Causes and Reducing Losses"
A CRS report for Congress, June 2, 2008
http://www.nationalaglawcenter.org/assets/crs/RL34517.pdf

Fuels reduction Opposing View #13 - "Most of the trees that need to be removed to reduce accumulated fuels are small in diameter and have little or no commercial value."

"Mechanically removing fuels (through commercial timber harvesting and other means) can also have adverse effects on wildlife habitat and water quality in many areas. Officials told GAO that, because of these effects, a large-scale expansion of commercial

timber harvesting alone for removing materials would not be feasible. However, because the Forest Service relies on the timber program for funding many of its activities, including reducing fuels, it has often used this program to address the wildfire problem. The difficulty with such an approach, however, is that the lands with commercially valuable timber are often not those with the greatest wildfire hazards."

Government Accounting Office
"**Western National Forests: A Cohesive Strategy is Needed to Address Catastrophic Wildfire Threats**"
GAO/RCED-99-65
http://www.gao.gov/archive/1999/rc99065.pdf

Fuels reduction Opposing View #14 - "In April 1999, the General Accounting Office issued a report that raised serious questions about the use of timber sales as a tool of fire management. It noted that "most of the trees that need to be removed to reduce accumulated fuels are small in diameter" -- the very trees that have 'little or no commercial value.' "

"As it offers timber for sale to loggers, the Forest Service tends to 'focus on areas with high-value commercial timber rather than on areas with high fire hazards,' the report said. Its sales include 'more large, commercially valuable trees' than are necessary to reduce the so-called accumulated fuels (in other words, the trees that are most likely to burn in a forest fire)."

"The truth is that timber sales are causing catastrophic wildfires on national forests, not alleviating them. The Sierra Nevada Ecosystem Project Report, issued in 1996 by the federal government, found that 'timber harvest, through its effects on forest structure, local microclimate and fuel accumulation, has increased fire severity more than any other recent human activity.' The reason goes back to the same conflict that the G.A.O. found: loggers want the big trees, not the little ones that act as fuel in forest fires."

"After a 'thinning' timber sale, a forest has far fewer of the large trees, which are naturally fire-resistant because of their thick bark; indeed, many of these trees are centuries old and have already survived many fires. Without them, there is less shade. The forest is drier and hotter, making the remaining, smaller trees more susceptible to burning. After logging, forests also have accumulations of flammable debris known as "slash piles" -- unsalable branches and limbs left by logging crews."

Hanson, Chad Ph.D., "**Commercial Logging Doesn't Prevent Catastrophic Fires, It Causes Them**." Published in the *New York Times*, May 19, 2000
http://www.commondreams.org/views/051900-101.htm

Fuels reduction Opposing View #15 - “Emerging science demonstrates that the real culprit for creating more wildfires — including southern California's blazes — is not "fuels" but climate and weather. Climate change simply means we must learn to live with more wildfires.

Humankind can be pretty smart (we made it to the Moon), but we can also be pretty stupid (we're destroying the lungs of the planet for profit). One thing, however, is certain: Mother Nature knows best. So let's be responsible and stop logging the publicly owned forests, let them recover and let God and nature back in.”

Hermach, Tim. “**The Skinny on Thinning, Should we save the forest from itself**?” Published by the *Eugene Weekly Viewpoint*, 11/1/07
http://www.forestcouncil.org/tims_picks/view.php?id=1211

Fuels reduction Opposing View #16 - “In general, rate of spread and flame length were positively correlated with the proportion of area logged (hereafter, area logged) for the sample watersheds. Correlation coefficients of area logged with rate of spread were > 0.57 for five of the six river basins (table 5). Rate of spread for the Pend Oreille and Wenatchee River basins was strongly associated (r-0.89) with area logged. Correlation of area logged with flame length were > 0.42 for four of six river basins (table 5). The Deschutes and Methow River basins showed the strongest relations. All harvest techniques were associated with increasing rate of spread and flame length, but strength of the associations differed greatly among river basins and harvesting methods.” (pg.9)

“As a by-product of clearcutting, thinning, and other tree-removal activities, activity fuels create both short- and long-term fire hazards to ecosystems. The potential rate of spread and intensity of fires associated with recently cut logging residues is high, especially the first year or two as the material decays. High fire-behavior hazards associated with the residues can extend, however, for many years depending on the tree. Even though these hazards diminish, their influence on fire behavior can linger for up to 30 years in the dry forest ecosystems of eastern Washington and Oregon.”

Huff, Mark H. Ph.D.; Ottmar, Roger D.; Alvarado, Ernesto Ph.D.
Vihnanek, Robert E.; Lehmkuhl, John F.; Hessburg, Paul F. Ph.D.

Everett, Richard L. Ph.D. 1995. "**Historical and current forest landscapes in eastern Oregon and Washington. Part II: Linking vegetation characteristics to potential fire behavior and related smoke production**" Gen. Tech. Rep. PNW-GTR-355. USDA Forest Service, Pacific Northwest Research Station.
https://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/4706/PB96155213.pdf;jsessionid=C8DDB611DB29D3716BBF313AADBA2E70?sequence=1

Fuels reduction Opposing View #17 - "The notion that commercial logging can prevent wildfires has its believers and loud proponents, but this belief does not match up with the scientific evidence or history of federal management practices. In fact, it is widely recognized that past commercial logging, road-building, livestock grazing and aggressive firefighting are the sources for "forest health" problems such as increased insect infestations, disease outbreaks, and severe wildfires."

"How can the sources of these problems also be their solution? This internal contradiction needs more than propaganda to be resolved. It is time for the timber industry and their supporters to heed the facts, not fantasies, and develop forest management policies based on science, not politics."

Ingalsbee, Timothy Ph.D. 2000. "**Commercial Logging for Wildfire Prevention: Facts Vs Fantasies**"
http://www.fire-ecology.org/citizen/logging_and_wildfires.htm

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Fuels reduction Opposing View #18 - "Problems exist with over-generalizing the effects of fire exclusion, and misapplying data derived from short-interval forest ecosystems (e.g. ponderosa pine stands) to long-interval forest ecosystems that have not missed their fire cycles yet and are still within their historic range of variability for stand-replacing fire events (e.g. high elevation lodgepole pine or fir stands)."

Ingalsbee, Timothy Ph.D. 2000. "**Money to Burn: The Economics of Fire and Fuels Management, Part One: Fire Suppression**. "An American Lands Alliance publication.
www.fire-ecology.org/research/money_to_burn.html

Fuels reduction Opposing View #19 - “Congress should prohibit the use of commercial timber sales and stewardship contracts for hazardous fuels reduction projects. Commercial logging removes the most ecologically valuable, most fire-resistant trees, while leaving behind highly flammable small trees, brush, and logging debris. The use of "goods for services" stewardship contracts also encourages logging larger, more fire-resistant trees in order to make such projects attractive to timber purchasers. The results of such logging are to increase fire risks and fuel hazards, not to reduce them. The financial incentives for abusive logging under the guise of "thinning" must be eliminated.”

Ingalsbee, Timothy Ph.D., “**National Fire Plan Implementation: Forest Service Failing to Protect Forests and Communities**”
American Lands Alliance, March 2002
http://www.fire-ecology.org/policy/ALA_fire_policy_2002.html

Fuels reduction Opposing View #20 - “Thus, the use of commercial logging for fire hazard reduction poses yet another paradox: Logging removes the trees that normally survive fires, leaves behind the trees that are most often killed by fire, increases flammable fuel loads, and worsens fire weather conditions.” (pg. 5)

Ingalsbee, Timothy Ph.D. “**The wildland fires of 2002 illuminate fundamental questions about our relationship to fire**.”
The Oregon Quarterly, Winter 2002
http://fireecology.org/research/wildfire_paradox.pdf

Fuels reduction Opposing View #21 - "In the face of growing public scrutiny and criticism of the agency's logging policies and practices, the Forest Service and their enablers in Congress have learned to mask timber sales as so-called 'fuels reduction' and 'forest restoration' projects. Yet, the net effect of these logging projects is to actually increase fire risks and fuel hazards."

"Decades of encouraging private logging companies to take the biggest, oldest, most fire-resistant trees from public lands, while leaving behind a volatile fuel load of small trees, brush, weeds, stumps and slash has vastly increased the flammability of forestlands."

"In addition to post-fire salvage logging, the Forest Service and timber industry advocates in Congress have been pushing pre-fire timber sales, often falsely billed as hazardous fuels reduction or 'thinning' projects, to lower the risk or hazard of future wildfires. In too many cases, these so-called thinning projects are logging thick-diameter fire-resistant overstory trees instead of or in addition to cutting thin-sized fire-susceptible understory trees. The resulting logging slash and the increased solar and wind exposure can paradoxically increase the fuel hazards and fire risks."

Ingalsbee, Timothy Ph.D. **"Fanning the Flames! The U.S. Forest Service: A Fire-Dependent Bureaucracy."**
Missoula Independent. Vol. 14 No. 24, June 2003
http://www.fire-ecology.org/research/USFS_fire_dependent.html

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Fuels reduction Opposing View #22 - "More than any other recent human activity, the legacy of commercial timber extraction has made public forests more flammable and less resilient to fire. Firstly, clearcut and high-grade logging have historically taken the largest, most fire-resilient, most commercially-valuable trees, and left behind dead needles and limbs (logging debris called "slash"), along with smaller trees and brush that are less commercially valuable but more flammable than mature and old-growth trees. The net effect is to increase the amount of available hazardous fuel."

"Secondly, the removal of large overstory trees also changes the microclimate of logged sites, making them hotter, drier, and windier, which increases the intensity and rate of spread of wildfires. Third, the creation of densely-stocked even-aged plantations of young conifers made sites even more flammable since this produced a solid mass of highly combustible conifer needles within easy reach of surface flames. These changes in the fuel load, fuel profile, and microclimate make logged sites more prone to high-intensity and high-severity wildfires."

Ingalsbee, Timothy Ph.D. 2005. "**A Reporter's Guide to Wildland Fire**."
Published by the Firefighters United for Safety, Ethics, and Ecology (FUSE), January 2005
http://www.commondreams.org/news2005/0111-14.htm

Fuels reduction Opposing View #23 - "For example, use of taxpayer dollars and resources on deficit timber sales that remove fire-resilient old-growth trees and leave behind untreated logging slash, violate federal environmental laws in planning or implementation, or are deceptively labeled as "fuels reduction" or "forest restoration" projects when they actually increase fuel hazards or degrade ecological integrity, is an *ethical* as well as an ecological issue. These kind of anti-ecological, unethical forest management projects also adversely affect firefighter and community safety by diverting limited federal dollars away from genuine hazardous fuels reduction activities, and by degrading ecological conditions in ways that increase wildfire rate of spread, intensity, or severity."

Ingalsbee, Timothy Ph.D. and Joseph Fox, Ph.D. "**Firefighters United for Safety, Ethics, and Ecology (FUSEE): Torchbearers for a New Fire Management Paradigm**"
A poster presentation at the Third International Fire Ecology and Management Congress, Association for Fire Ecology
November 13-17, 2006
http://fusee.org/docs/AFE_FUSEE_display_abstract.pdf

Fuels reduction Opposing View #24 - "History, not science, refutes the claim that logging helps to prevent forest fires.

The forests of the West are far more vulnerable to fire due to a century of industrial logging and fire suppression. Logging has removed most of the older, fire-resistant trees from the forests.

Fire suppression has encouraged many smaller and more flammable trees, brush and dense plantations to fill the holes. Logging has set the forests of the West up to burn big and hot.

More logging will not fix this."

Keene, Roy "**Logging does not prevent wildfires**"
Guest Viewpoint, the Eugene *Register Guard*
January 11, 2009

http://www.highbeam.com/doc/1G1-192070397.html

Fuels reduction Opposing View #25 - "Fear of wildfire is heavily used to sell these forest "restoration" schemes. Logging has not been proven, in practice, to reduce fire frequency or intensity. Historically, the largest, most destructive blazes, like the Tillamook conflagration, were caused from logging or fueled by slash. Unlogged forests, cool and shaded, are typically more fire resistant than cut over, dried-up stands choked with slash and weeds.

Large-scale logging (by any name) has devalued our forests, degraded our waters, damaged soils, and endangered a wide variety of plants and animals. How will the current round of politically and environmentally propelled 'restorative' logging proposals differ, in practice, from past logging regimes?"

Keene, Roy **Restorative Logging? "More rarity than reality"**
Guest Viewpoint, the Eugene *Register Guard*
March 10, 2011
http://eugeneweekly.com/2011/03/03/views3.html

Fuels reduction Opposing View #26 - "There is a gathering body of evidence that large wildfires are not determined by "unnatural" fuel loading. Lodgepole pine, subalpine fir, and aspen depend on infrequent, stand-replacing, high intensity fires. Most of the B-D NF is well within the natural range of variability. In fact, dense forest stands may not be caused by fire exclusion, but by a series of consecutive wet years that boosted seedling survival and expanded the local range.

Drought, wind, and low humidity, not fuels loads, drive large wildifires. Weather and climatic conditions are also the driving force behind expanding insect populations."

Kelly, Steve Ph.D. 2007. "**Cheap Chips, Counterfeit Wilderness: Greenwashing Logging on Montana's Biggest National Forest**."
Published by the World Prout Assembly
http://www.worldproutassembly.org/archives/2007/12/cheap_chips_cou.html

Fuels reduction Opposing View #27 - "The Congressional Research Service (CRS) recently addressed the effect of logging on wildfires in an August 2000 report and found that the current wave of forest fires is not related to a decline in timber harvest on Federal lands. From a quantitative perspective, the CRS study indicates a very weak relationship between acres logged and the extent and severity of forest fires. To the contrary, in the most recent period (1980 through 1999) the data indicate that fewer acres burned in areas where logging activity was limited."

"Qualitative analysis by CRS supports the same conclusion. The CRS stated: "[T]imber harvesting removes the relatively large diameter wood that can be converted into wood products, but leaves behind the small material, especially twigs and needles. The concentration of these fine fuels on the forest floor increases the rate of spread of wildfires." Similarly, the National Research Council found that logging and clearcutting can cause rapid regeneration of shrubs and trees that can create highly flammable fuel conditions within a few years of cutting."

Laverty, Lyle, USDA Forest Service and Tim Hartzell U.S. Department of the Interior
"**A Report to the President in Response to the Wildfires of 2000**", September 8, 2000.
http://www.fs.fed.us/emc/hfi/president.pdf

Fuels reduction Opposing View #28 - "I will turn first to forest thinning aimed at reducing fire risks. There is surprisingly little scientific information about how thinning actually affects overall fire risk in national forests."

"How can it be that thinning could increase fire risks? First, thinning lets in sunlight and wind, both of which dry out the forest interior and increase flammability. Second, the most flammable material - brush, limbs, twigs, needles, and saplings - is difficult to remove and often left behind. Third, opening up forests promotes brushy, flammable undergrowth. Fourth, logging equipment compacts soil so that water runs off instead of filtering in to keep soils moist and trees healthy. Fifth, thinning introduces diseases and pests, wounds the trees left behind, and generally disrupts natural processes, including some that regulate forest health, all the more so if road construction is involved."

Lawrence, Nathaniel, NRDC senior attorney
"**Gridlock on the National Forests**" Testimony before the U.S. House

of Representatives Subcommittee on Forests and Forest Health (Committee on Resources) December 4, 2001.
http://www.nrdc.org/land/forests/tnl1201.asp

Fuels reduction Opposing View #29 - "Those who would argue that this form of logging has any positive effects on an ecosystem are clearly misinformed. This type of logging has side effects related to wildfires, first and foremost being that the lumber companies aren't interested in hauling out all the smaller trees, branches, leaves, pine needles, sawdust, and other debris generated by cutting all these trees. All this debris is left on site, quickly dries out, and is far more flammable sitting dead on the ground than it was living in the trees. Smaller, non-commercially viable trees are left behind (dead) as well - creating even more highly flammable fuel on the ground.

Leitner, Brian. "**Logging Companies are Responsible for the California Wildfires**." the Democratic Underground, October 30, 2003.
http://www.democraticunderground.com/articles/03/10/30_logging.html

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Fuels reduction Opposing View #30 - "Almost seven times more forested federal land burned during the 1987-2003 period than during the prior 17 years. In addition, large fires occurred about four times more often during the latter period."

"The increases in fire extent and frequency are strongly linked to higher March-through-August temperatures and are most pronounced for mid-elevation forests in the northern Rocky Mountains.

The new finding points to climate change, not fire suppression policies and forest fuel accumulation, as the primary driver of recent increases in large forest fires."

"**More Large Forest Fires Linked To Climate Change**"
Adapted from materials provided by the University of Arizona
ScienceDaily, July 10, 2006
http://www.sciencedaily.com/releases/2006/07/060710084004.htm

Fuels reduction Opposing View #31 - “We inferred climate drivers of 20th-century years with regionally synchronous forest fires in the U.S. northern Rockies. We derived annual fire extent from an existing fire atlas that includes 5038 fire polygons recorded from 12070086 ha, or 71% of the forested land in Idaho and Montana west of the Continental Divide. The 11 regional-fire years, those exceeding the 90th percentile in annual fire extent from 1900 to 2003 (>102314 ha or ~1% of the fire atlas recording area), were concentrated early and late in the century (six from 1900 to 1934 and five from 1988 to 2003). During both periods, regional-fire years were ones when warm springs were followed by warm, dry summers and also when the Pacific Decadal Oscillation (PDO) was positive. Spring snowpack was likely reduced during warm springs and when PDO was positive, resulting in longer fire seasons. Regional-fire years did not vary with El Nino-Southern Oscillation (ENSO) or with climate in antecedent years. The long mid-20th century period lacking regional-fire years (1935-1987) had generally cool springs, generally negative PDO, and a lack of extremely dry summers; also, this was a period of active fire suppression. The climate drivers of regionally synchronous fire that we inferred are congruent with those of previous centuries in this region, suggesting a strong influence of spring and summer climate on fire activity throughout the 20th century despite major land-use change and fire suppression efforts. The relatively cool, moist climate during the mid-century gap in regional-fire years likely contributed to the success of fire suppression during that period. In every regional-fire year, fires burned across a range of vegetation types. Given our results and the projections for warmer springs and continued warm, dry summers, forests of the U.S. northern Rockies are likely to experience synchronous, large fires in the future.”

Morgan, Penelope Ph.D., Emily K. Heyerdahl Ph.D., and Carly E. Gibson
2008 "**Multi-season climate synchronized forest fires throughout the 20th century, Northern Rockies**", *Ecology*, 89, 3: 717-728.
http://www.firelab.org/index.php?option=com_jombib&task=showbib&id=343

Fuels reduction Opposing View #32 - “Still, forestry experts warned in the 2000 plan that logging should be used carefully and rarely; in fact, the original draft states plainly that the "removal of large merchantable trees from forests does not reduce fire risk and may, in fact, increase such risk."

“Now, critics charge that the Bush administration is ignoring that warning. Neil Lawrence, a policy analyst with the Natural Resource Defense Council, claims that Washington has taken a far more aggressive approach to incorporating commercial logging in its wildfire prevention plans. As a result, Lawrence and other critics say, the National Fire Plan is becoming a feeding ground for logging companies. Moreover, critics claim the administration's strategy, far from protecting the lives and homes of those most at risk, could actually increase the likelihood of wildfires.”

Okoand Ilan Kayatsky, Dan. “**Fight Fire with Logging?**”
Mother Jones, August 1, 2002
http://www.motherjones.com/news/feature/2002/08/fireplan.html

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Fuels reduction Opposing View #33 - “Fuel reduction treatments should be forgone if forest ecosystems are to provide maximal amelioration of atmospheric carbon dioxide over the next 100 years,' the study authors wrote in their conclusion. 'If fuel reduction treatments are effective in reducing fire severities in the western hemlock, Douglas-fir forests of the west Cascades and the western hemlock, Sitka spruce forests of the Coast Range, it will come at the cost of long-term carbon storage, even if harvested materials are used as biofuels.’ ”

Oregon State University Research
Science Centric, July 9, 2009
http://www.sciencecentric.com/news/article.php?q=09070918-forest-fire-prevention-efforts-will-lessen-carbon-sequestration-add-greenhouse-warming

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Fuels reduction Opposing View #34 - “While top officials blame recent fires on fuels, all the on-the-ground reports I've read focus on the weather.”

O'Toole Randal. “**Incentives, Not Fuels, Are the Problem**”
Published by the Thoreau Institute
http://www.ti.org/fireshort.html

Fuels reduction Opposing View #35 - "This paper will show that built-up fuels are *not* the main reason, or even a major reason, for recent severe fires or high fire suppression costs. The weather is the prime reason for widespread fires this year as well as in 2000, 1999, and other recent years. But the major reason for increased costs is institutional: The federal land agencies, and especially the Forest Service, have a blank check to put out fires and thus have no reason to control their costs. If fuels are not the problem, then it isn't necessary to spend $400 million a year treating them."

O'Toole, Randal. 2002. "**Reforming the Fire Service: An Analysis of Federal Fire Budgets and Incentives**." The Thoreau Institute. www.ti.org/firesvc.pdf

Fuels reduction Opposing View #36 - "Post-fire reports on individual fires make little or no mention of excess fuels. Instead, fire scientists agree that drought is the cause of the severe fires in recent years. This year's Rodeo- Chedisky Fire, the largest fire in Arizona history, was on heavily managed and thinned federal lands, not an untouched wilderness brimming with excess fuels."

O'Toole, Randal. "**Money to Burn?"**
Regulation, Winter 2002 - 2003
http://www.cato.org/pubs/regulation/regv25n4/v25n4-6.pdf

Fuels reduction Opposing View #37 - "The current focus on 'fuels' is, in itself, misguided because almost anything in a forest will burn, given the right conditions. Any fire specialist will tell you that the principal factors affecting fire are temperature and moisture, not fuels. No legislation will prevent or even reduce fires in the vast areas of the national forests and to pretend so is fraudulent."

Partridge, Arthur Dean Ph.D.

Testimony to the Agriculture, Nutrition and Forestry Committee
United State Senate. Hearing to Review Healthy Forests Restoration Act, HR 1904
June 26, 2003
http://www.univision.co.za/offer-day-oA2A392Cr1N3B2x_2F2du3g3-music.shtml

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Fuels reduction Opposing View #38 - "A number of studies have shown that for some ecosystems, the major factor determining fire intensity and size is weather and not the amount of fuel (Baker 1989, Flannigan and Harrington 1988, Haines and Sando 1969, Rothermel 1995). For example, Bessie and Johnson (1995) found that fire spread and intensity were strongly related to weather conditions and only weakly related to fuel loads in the southern Canadian Rockies. Similarly, many hundreds of the thousands of acres of forests that were intensely burned in the 1994 Tyee Fire on the Wenatchee National Forest had very low fuel loads. The Forest Service and Fish and Wildlife Service concluded that weather patterns and terrain -- not fuels -- were the major reasons why this large fire burned the way it did (U.S. Forest Service 1995, U.S. Fish & Wildlife Service 1994). Such case studies provide little evidence that salvage logging of dead and dying trees will significantly reduce wildfires."

Peters, R.L., E. Frost, and F. Pace. "**Managing for forest ecosystem health: A reassessment of the forest health crisis**." *Defenders of Wildlife*. April 1996.
http://www.magicalliance.org/Forests/Forest%20Health%20Evaluated.htm

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Fuels reduction Opposing View #39 - "H.R 1904 does not include any specific measures to protect homes or communities. It is also inconsistent with the Western Governors' Association 10-Year Comprehensive Strategy, which does not call for any changes in existing laws. The only proven method to protect homes and communities is to reduce flammable materials in the immediate vicinity of structures, yet the definitions in H.R. 1904 would not require any activities to be near homes. Instead, the bill seeks to further subsidize the timber industry and eliminate obstacles to logging large, fire-resistant trees miles away from the nearest home. The country's top forest scientists, including the Forest Service's own scientists, have found that this kind of logging can actually increase fire risk and make fires larger and more intense."

Peterson, Mike
testimony to the Senate Agriculture, Nutrition, and
Forestry Committee concerning the Healthy Forests Restoration Act, HR 1904.

June 26 2003
http://agriculture.senate.gov/Hearings/testimony.cfm?id=824&wit_id=2258

Fuels reduction Opposing View #40 - "We question the validity of thinning as a means both to reduce the threat of wildfire and to restore historic forest structure in the absence of site-specific data collection on past and present landscape conditions."

Platt, Rutherford V. Ph.D., Thomas T. Veblen Ph.D., and Rosemary L. Sherriff **"Are Wildfire Mitigation and Restoration of Historic Forest Structure Compatible? A Spatial Modeling Assessment"** Published Online: by the by Association of American Geographers. Sep. 8, 2006
http://www.ingentaconnect.com/content/routledg/anna/2006/00000096/00000003/art00001

Fuels reduction Opposing View #41 - "While most of us have suffered with the unavoidable fire-related anxieties, we have also been impressed by the hard work and heroism of both neighbors and anonymous firefighters. But others have tried to profit from the fires and the primordial fears they evoke. The forest products industry has been in the lead in this exploitation of other people's hardtimes.

The forest products industry wants access as cheaply as it can get it to as much wood fiber as possible. It once had privileged access to forested public lands. As the frontier economy has faded and government give-aways have fallen out of political favor, the forest products industry's privileged grip on public resources has begun to slip. The current forest fires offer them an opportunity to try to regain some of their lost clout.

The fires, timber industry spokespersons claim, are the result of restrictions on commercial logging on public lands. If all of these lands had been logged, they assert, the fires would not be burning. It is the federal government and the environmentalists they are in cahoots with who have caused the fires that now threaten us. As one timber industry advocate baldly said, "I never saw a clearcut burn."

Nothing could be further from the truth. Of course clearcuts burn. When long, hot summers dry out the grasses, brush, and logging wastes, they can flare explosively. When they grow thick with closely packed young trees, they present exactly the fire danger we are wrestling with now. The logging roads provide human access that is the source of the vast majority of forest fires.

If roading and logging eliminated the threat of wildfire, most of the fires that threaten us now would not be burning. Look at where these fires are: They are largely burning on the forest-urban interface in areas adjacent to intense human activity. In Western Montana, for instance, the fires are burning in the forests adjacent to some of the rapidly growing residential areas in the nation, the Bitterroot, Helena, and Clark Fork Valleys. These are not roadless areas that have never been logged. Quite the contrary, they are areas that were roaded and logged in the past. Those roads often have then provided access for the human activity that now dominates these areas, including the home building, residential settlement of the last two decades, and recreational activity. The trees now burning are usually second growth that followed past logging."

Power, Thomas Ph.D. **"Thee Politics of Forest Fires -- The Abuse of Other People's Hard Times."**
8/15/2000
Thomas Michael Power is the Professor and Chairman of the Economics Department, University of Montana
http://www.forwolves.org/ralph/tompower.htm

Fuels reduction Opposing View #42 - "It is well established that logging and roadbuilding often increase both fuel loading and fire risk. For example, the Sierra Nevada Ecosystem Project (SNEP) Science Team (1996) concluded that "timber harvest…. has increased fire severity more than any other recent human activity" in the Sierra Nevada. Timber harvest may increase fire hazard by drying of microclimate associated with canopy opening and with roads, by increases in fuel loading by generation of activity fuels, by increases in ignition sources associated with machinery and roads, by changes in species composition due to opening of stands, by the spread of highly flammable non native weeds, insects and disease, and by decreases in forest health associated with damage to soil and residual trees (DellaSala and Frost, 2001; Graham et al., 2001; Weatherspoon et al., 1992; SNEP Science Team, 1996). Indeed a recent literature review reported that some studies have found a positive correlation between the occurrence of past logging and present fire hazard in some forest types in the Interior Columbia Basin (DellaSala and Frost, 2001)."

Roberson, Emily B. Ph.D., Senior Policy Analyst, California Native Plant Society
Excerpt from a letter to Chief Dale Bosworth and 5 members of congress, 2002
http://www.plantsocieties.org/PDFs/Fire%20letter%20CNPS%208.02%20letterhead.pdf

Fuels reduction Opposing View #43 - "No evidence suggests that spruce–fir or lodgepole pine forests have experienced substantial shifts in stand structure over recent decades as a result of fire suppression. Overall, variation in climate rather than in fuels appears to exert the largest influence on the size, timing, and severity of fires in subalpine forests (Romme and Despain 1989, Bessie and Johnson 1995, Nash and Johnson 1996, Rollins et al. 2002). We conclude that large, infrequent standreplacing fires are "business as usual" in this forest type, not an artifact of fire suppression." (Pg. 666)

"Variation in daily area burned was highly correlated with the moisture content of 100-hour (2.5- to 7.6- cm diameter) and 1000-hour dead fuels (Turner et al. 1994). Once fuels reached critical moisture levels later in the season, the spatial pattern of the large, severe standreplacing fires was controlled by weather (wind direction and velocity), not by fuels, stand age, or firefighting activities (Minshall et al. 1989,Wakimoto 1989, Turner et al. 1994)." (Pg. 666)

Schoennagel, Tania Ph.D., Thomas T. Veblen Ph.D., and William H. Rommie Ph.D. "**The Interaction of Fire, Fuels, and Climate across Rocky Mountain Forests**"
Bioscience, July 2004 / Vol. 54 No. 7
http://www.montana.edu/phiguera/GEOG430/PurdyFireFieldTrip/Schoennagel_et_al_2004_Bioscience.pdf

Fuels reduction Opposing View #44 - "Fire, just like insects and disease, are a natural and beneficial part of forest ecosystems and watersheds. Without these natural processes the forest ecosystems quickly degrade. Excessive logging removes and reduces cooling shade adding to the hotter, drier forests along with logging debris creating a more flammable forest. Current "forest management" practices, road building and development cause forest fires to rage for hundreds of miles."

Strickler, Karyn and Timothy G. Hermach, "**Liar, Liar, Forests on Fire: Why Forest Management Exacerbates Loss of Lives and Property**" Published by *CommonDreams.org*, October 31, 2003
http://www.commondreams.org/scriptfiles/views03/1031-10.htm

Fuels reduction Opposing View #45 - "Commercial logging and logging roads open the forest canopy, which can have two effects. First, it allows direct sunlight to reach the forest floor, leading to increased evaporation and drier forests.[5] As a consequence, ground fuels (grass, leaves, needles, twigs, etc.) dry out more quickly and become susceptible to fire. Second, an open canopy allows more sunlight to reach the understory trees, increasing their growth.[6] This can lead to weaker, more densely-packed forests." (pgs. 19-20)

"Congress and the Forest Service continue to rely on the commercial logging program to do something it will never accomplish – reduce fire risk. The commercial logging program is designed to provide trees to private timber companies, not to reduce the risk of fire." (pg. 20)

Taxpayers for Common Sense. "From the Ashes: **Reducing the Harmful Effects and Rising Costs of Western Wildfires**"
Washington DC , Dec. 2000
http://www.ourforests.org/fact/ashes.pdf

Fuels reduction Opposing View #46 - "Indiscriminate logging is not a viable solution to reducing wildfire risk. Logging can actually increase fire danger by leaving flammable debris on the forest floor. Loss of tree canopy lets the sun in, encouraging the growth of brush, increases wind speed and air temperature, and decreases the humidity in the forest, making fire conditions even worse."

Thomas, Craig. **"Living with risk: Homeowners face the responsibility and challenge of developing defenses against wildfires**." *Sacramento Bee* newspaper, July 1, 2007.
http://www.sierraforestlegacy.org/NR_InTheNews/SFLIP_2007-07-01_SacramentoBee.php

Fuels reduction Opposing View #47 - "Timber harvest, through its effects on forest structure, local microclimate, and fuels accumulation, has increased fire severity more than any other recent human activity."(pg.62)

University of California; SNEP Science Team and Special Consultants
1996 *"**Sierra Nevada Ecosystem Project*: Final Report to Congress"**
Volume 1, Chapter 4 – Fire and Fuels.
http://ceres.ca.gov/snep/pubs/web/PDF/v1_ch04.pdf

Fuels reduction Opposing View #48 - "Why is the natural fire regime in most Rocky Mountain ponderosa pine–Douglas fir forests variable in severity? Extended droughts and high winds can lead to exceptional fire spread across a broad spectrum of fuel loads and forest structures. For example, almost 25,000 ha of ponderosa pine–Douglas fir forest burned on a single day (9 June 2002), driven by strong winds (Finney et al., 2003). Yet, brief episodes when the winds declined and fuel moisture rose, led to low-severity fire in the same landscape (Finney et al., 2003), suggesting that extreme weather, not fuels, was the chief cause of high-severity fire under those conditions. Even during summer, ponderosa pine–Douglas fir landscapes in the Rocky Mountains are subject to rapid increases in wind speed and changes in direction from jet streams or cold fronts (Baker, 2003)." (pg. 5)

USDA Forest Service
BALD ANGEL VEGETATION MANAGEMENT PROJECT ENVIRONMENTAL ASSESSMENT. La Grande Ranger District, Wallowa-Whitman National Forest
December 2006
https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/6608/Wallowa_Whitman_Bald_Angel_Vegetation_Management_EA.pdf?sequence=1

Fuels reduction Opposing View #49 - "Ironically, this very type of logging, experts inform us, is likely to increase, not decrease, the frequency and severity of wildland fires.

In the Forest Service's own National Fire Plan, agency scientists warned against the use of commercial logging to address fire management. The report found that 'the removal of large, merchantable trees from forests does not reduce fire risk and may, in fact, increase such risk.' "

Voss, René
"**Getting Burned by Logging**," July 2002
The Baltimore Chronicle
http://www.baltimorechronicle.com/firelies_jul02.shtml

Fuels reduction Opposing View #50 - "The federal assistance could include funding to help state and local governments mitigate the beetle infestations, the presence of which increases the risk of forest wildfires that endanger surrounding communities and infrastructure, said supporters of the bill."

"Kulakowski, a former research scientist at the University of Colorado at Boulder and current professor at Clark University in Massachusetts, discounted this notion during his testimony. He said climate, not insects, plays the most important role in forest fires, as wildfires are more likely to occur during droughts."

Walsh, Jeremy "**Scientist: Money to fight beetles as fire mitigation not productive**"
Durango Herald, April 23, 2010
http://durangoherald.com/sections/News/2010/04/23/Scientist_Money_to_fight_beetles_as_fire_mitigation_not_productive/

Fuels reduction Opposing View #51 - "New research published this week in the journal *Science* says that global warming may be causing more intense wildfires in the western United States. The researchers found that increases in large wildfire activity in the western United States over the past 25 years is 'strongly associated with increased spring and summer temperatures and an earlier spring snowmelt.' **"**

Westerling, Anthony Ph.D., "**Does Global Warming Increase Forest Fires?**"
NPR, *Talk of the Nation*, July 7, 2006
http://www.npr.org/templates/story/story.php?storyId=5541423

Fuels reduction Opposing View #52 - “Indeed, climatic conditions drive all big fires — not fuels. All substantial fires occur only if there is extended drought, low humidity, high temperatures and, most importantly, high winds. Wind, in particular, is critical. Wind increases fire spread exponentially.

When conditions are "ripe" for a large blaze, fires will burn through all kinds of fuel loads. By contrast if the forest is wet like Oregon's coastal forests, you can have all the fuel in the world, and it won't burn.

For this reason, most fires go out without burning more than a few acres. By contrast, when you have drought, low humidity, high temperatures and wind, a few blazes will grow into huge fires. For this reason, approximately 1 percent of all fires are responsible for about 95 to 99 percent of the acreage burned.”

Wuerthner, George
“**The Climate Factor - Forest thinning won't deter the coming large fires**”
Eugene Weekly, December 6, 2007
http://www.eugeneweekly.com/2007/12/06/views3.html

Fuels reduction Opposing View #53 - “Another surprising finding is that mechanical fuels treatment, commonly known as logging and thinning, typically has little effect on the spread of wildfires. In fact, in some cases, it can increase wildfires’ spread and severity by increasing the fine fuels on the ground (slash) and by opening the forest to greater wind and solar penetration, drying fuels faster than in unlogged forests.”

Wuerthner, George. “**Logging, thinning would not curtail wildfires**”
The Eugene *Register-Guard*, December 26, 2008
http://wuerthner.blogspot.com/2008/12/logging-thinning-would-not-curtail.html

Fuels reduction Opposing View #54 - "For example, the Forest Service justifies the Elliston Face timber sale on the basis of reducing what they call "hazardous" fuels (which as an ecologist I call woody biomass). To quote the FS, "This project would reduce wildland fire risk and help protect lives, communities, and ecosystems from the potential consequences of a high-intensity wildland fire within treatment areas." "

"The Forest Service makes these assertions even though the statement is full of falsehoods, misleading and/or unproven assumptions."

"even the Forest Service's own analysis concludes that logging of the Elliston Face will have some adverse impacts on soils, watersheds, wildlife, scenery and recreation. So we need to ask whether the potential effects of a fire that may not occur for a century or more is worth the negative impacts created by the logging process now?"

"The Forest Service's own analysis has six indicator species— including pileated woodpecker, hairy woodpecker, martin, northern goshawk. These species depend on dead snags and down wood that pine beetles and wildfire create. But the FS treats beetles and wildfire as unwelcome events."

"the FS exploits the fears of misinformed citizens. One can only conclude the agency is still the handmaiden to the timber industry rather than a public servant working on behalf of all citizens of the country."

Wuerthner, George **"Forest Service misses education opportunity"**
Published in *NewWest*, June 2010
http://www.newwest.net/topic/article/elliston_face_is_yet_another_example_of_forest_service_malfeasance/C564/L564/

Fuels reduction Opposing View #55 - "Ultimately, fuels do not control fires. If the climate/weather isn't conducive for fire spread, it doesn't much matter how much dead wood you have piled up, you won't get a large fire. As an extreme example, think of all the dead wood lying around on the ground in old-growth West Coast rainforests — tons of fuel, but few fires — because it's too wet to burn.

Large blazes are driven by a combination of extreme drought, low humidity, high temperatures and, most importantly, wind. These conditions do not occur in the same place at the same time very frequently — which is why there are often decades to centuries between major blazes and most fires go out without burning more than a few acres."

Wuerthner, George **"Pine Beetle Fears Misplaced"**

Helena Independent Record, March 25, 2010
http://helenair.com/news/opinion/article_f3d671f0-37c9-11df-921d-001cc4c002e0.html

Fuels reduction Opposing View #56 - "In the last analysis, the politics of forest thinning promotes more logging. The timber industry has successfully sold the idea that fuel reductions work and it has great influence with politicians who buy into to its assurance that logging reduces large fires."

"So is there any place for forest thinning/fuel reductions? There is. But it should be limited to the areas immediately surrounding homes and communities. Since one can't predict where a fire will start and burn, thinning forest willy-nilly is a waste of effort. Not only are most thinning projects done improperly, most are done for the wrong reasons and lose taxpayer money to boot."

"Thinning trees/shrubs near homes, combined with a reduction in home flammability by installation of metal roofs, removal of flammable materials adjacent to homes, and other measures can virtually guarantee a home will survive even a severe high intensity forest fire."

Wuerthner, George
"WHY THINNING FORESTS IS POOR WILDFIRE STRATEGY"
Published in the *Wildlife News*, January 27, 2014
http://www.thewildlifenews.com/2014/01/27/why-thinning-forests-is-poor-wildfire-strategy/